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Latino Subgroup as a Moderator of the Relationship between Language Usage and Alcohol Use in a National Sample of Latino Emerging Adults

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Abstract

Emerging adulthood represents a period of increased risk for alcohol use. For Latino emerging adults, less is known regarding the role cultural variables play in alcohol use behaviors. Research in this area has primarily been conducted using Latino college student samples and/or a single Latino subgroup. This study investigates Latino subgroup as a moderator of the relationship between language usage and alcohol use variables, using a nationally-representative sample of Latino emerging adults from the National Longitudinal Study of Adolescent Health (Add Health). Participants (N=2,477) identified as Mexican/ Mexican American, Cuban/ Cuban American, Puerto Rican, or Central/South American/Other Hispanic. Results of regression analyses indicated that gender, education, and language usage have a differential impact on alcohol use and binge drinking behaviors among individuals from different Latino subgroups. Implications for future research and alcohol prevention are discussed.

Keywords

Emerging adulthood; alcohol use; Hispanic/Latino; prevention

Emerging adulthood represents a time of increased independence and of increased risk for excessive alcohol use (Arnett, 2005a). Excessive alcohol use among emerging adults is an established public health concern with consequences that pose serious threats to an individual's physical and psychological health (National Institute on Alcohol Abuse and Alcoholism (NIAAA), 2007; O'Malley & Johnston, 2002; Vicary & Karshin, 2002). Research on emerging adult populations and alcohol use has primarily focused on college student populations. However, less is known about alcohol use among racial/ethnic minority emerging adults who may have transitioned into a variety of life roles (e.g., college, work). Latino emerging adults represent one such growing and understudied population. Approximately 16% of the population in the United States is Latino and Latinos now represent the largest ethnic/minority group in the United States (Ennis, Rios-Vargas, & Albert, 2011).

The Latino population is a young population characterized by great within-group diversity in terms of national origin and language usage (Ennis, Rios-Vargas, & Albert 2011; Greico, 2009; U.S. Census Bureau, 2007). The largest subgroups of Latinos in the U.S. population are Mexican (63%), Central and South American (13.4%), Puerto Rican (9.2%) and Cuban (3.5%) (Ennis, Rios-Vargas, & Albert, 2011). This study uses data from Wave 3 of Add Health which was collected around 2001 and roughly corresponds with the 2000 Census. At the time of data collection, 40% of Latinos were foreign born with variation among Latino subgroups (Ramirez, 2004). For example, nearly 60% of Mexicans were born in the U.S. while only 31.5% of Cubans were born in the U.S. The inclusion of Latino subgroups represents an important advancement in behavioral research with Latino populations.

Indeed, Gonzales and colleagues (2009) note that given the diversity in the Latino community, one should expect subgroup differences. Despite the fact that emerging adulthood is a high-risk developmental period for alcohol use (Arnett, 2005a), Latino subgroup differences have been understudied during this critical period. Furthermore, studies of Latino emerging adults and alcohol use have largely focused on Mexican American youth and in particular, Mexican American college students (Rafaelli et al., 2007; Zamboanga, Rafaelli, & Horton, 2006). The purpose of this study is to investigate subgroup differences among Latino emerging adults in the relations between language usage and alcohol use. This study utilizes data from a subsample of Latino emerging adults who participated in Wave III of the National Longitudinal Study of Adolescent Health ((Add Health) Harris et al., 2009). Add Health is a nationally representative, longitudinal study designed to garner information regarding health and health risk behaviors beginning in adolescence through adulthood.

Emerging Adulthood and Latinos

Emerging adulthood represents the developmental period between adolescence and adulthood and roughly corresponds with ages 18 to 25 (Arnett, 2005b; 2007). In the last several decades, economic and social shifts in the U.S. have yielded a larger proportion of young adults who have not yet transitioned into the traditional adult roles of marriage, parenthood, and home ownership (Arnett, 2005b). Emerging adulthood now represents a time when young people are spending more time exploring their identities, as well as social and occupational possibilities. These youth may be pursuing higher education and occupational training to meet the needs of a more information based society (Arnett, 2007). Opportunities for socialization may come from both peers and families. During emerging adulthood, individuals become increasingly independent from their parents, even when they live in their homes. Arnett (2007) notes that this is particularly true in cultures that support self-exploration and broader individuation. The context of this exploration may differ for Latino emerging adults. Because Latino families emphasize collectivism and familismo, Latino emerging adults often remain in their parents' homes (Falicov, 1998). In the more collectivistic Latino culture, self-exploration often occurs in the context of a parents' home. This is in contrast to the more individualistic dominant culture.

Cultural Adaptation and Acculturation

Cultural context and adaptation has been central to understanding behavioral outcomes, including alcohol use, among Latino populations. Recent advances in the conceptualization of acculturation will help to frame the interrelationships between cultural context and domains of cultural adaptation. Schwartz and colleagues (2010) posit a broader theory of acculturation that encompasses three domains each for the heritage culture and the receiving culture, "behavioral acculturation", "values acculturation", and "identity-based acculturation." Language usage would represent an aspect of behavioral acculturation.

Using this framework, language usage in different social contexts such as with family or with friends may represent varying levels of engagement in the heritage and receiving cultures. English language usage has often been thought to represent acculturation toward the host community (Gonzales, Fabrett, & Knight, 2009). Though over three-quarters of Latinos speak a language other than English in their home, there is also variation in language usage among Latino subgroups (Ramirez, 2004). Cubans had the lowest rate of speaking only English in the home and Puerto Ricans had the highest rates of speaking non-English in the home while also reporting that they speak English "very well". Spanish language usage may represent a lack of acculturation toward the host community. At the

same time, Spanish language usage in certain contexts may also represent an enculturation process, that is, engagement in one's heritage culture.

Latino emerging adults' use of Spanish with family members may suggest close ties to their families and heritage culture, which could serve to provide the stability that Arnett (2005b) argues traditionally comes from long-term commitments and marriage. On the other hand, those who speak English with family may be more likely to pursue the dominant culture's expectation of moving away from home and gaining independence (Arnett, 2007). One consequence of increased independence is the increase risk for alcohol and drug use as the individual explores different potential identities. In cases when Latino emerging adults move out of their parents' home, they tend to remain close, both geographically and emotionally, to their family and engage in frequent face-to-face contacts (Hurtado, 1995). In essence, the family may provide a context for maintaining ties to heritage culture thereby protecting emerging adults from risky behaviors such as alcohol use.

Latino Subgroups, Language, and Alcohol Use

Previous research focused on Latino subgroup differences in alcohol use and alcohol use disorders among adult samples has found important subgroup differences. Alegria and colleagues (2008) found that among Puerto Rican, Cuban, Mexican, and other Latino subgroups, Mexican and other Latino group immigrants reported lower prevalence of alcohol abuse compared with their U.S.-born counterparts. Likewise, Mexican immigrants reported lower prevalence of alcohol dependence compared with their U.S.-born counterparts. Adolescent subgroups differences have also emerged in the literature with Mexican adolescents reporting higher rates of alcohol use than other Latino groups (Delva et al., 2005; Siqueira & Crandall, 2008). The appearance of subgroup differences is not surprising when one considers the importance of Latino subgroup sociopolitical contexts in understanding mental health outcomes (Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002).

The literature on alcohol use among Latinos has identified acculturation as an important predictor of alcohol use among Latinos. The impact of acculturation on alcohol use has been examined among adolescents (e.g., Fosados et al., 2007) and adults (e.g., Zembre, 2007). A growing number of studies have also investigated the construct of acculturation among Mexican American college students (Rafaelli et al., 2007; Venegas, Cooper, Naylor, Hanson, & Blow, 2012; Zamboanga, Rafaelli, & Horton, 2006). Studies have used a variety of acculturation measures, including from several-item measures reflecting behaviors, attitudes, and language usage to single items that solely focus on reflecting language usage alone. Context-specific language usage, a behavioral indicator of acculturation, has been linked to alcohol use among adolescents. In a study of Mexican adolescents, Allen and colleagues (2008) found that Spanish language use within social networks was protective against substance use, but only in bivariate analyses.

Many studies of the role of language usage and substance use combine language preference and usage among family and peers into a single indicator (e.g. Allen et al., 2008; Markides, Krause, & Mendes de Leon, 1988). An examination of the degree to which Spanish language is used with family or peers may further expand our understanding of the impact of acculturation on alcohol use among Latinos. This may be particularly important from a developmental perspective for emerging adulthood, in that peers may take on a more primary role than parents. Still, maintaining close ties with family is an important cultural value among Latinos (Santiago-Rivera et al., 2002). Thus, understanding the role of Spanish language usage with family versus peers may yield important information regarding the ongoing role of family in the drinking behaviors of Latino emerging adults.

Although the majority of the research on acculturation and alcohol use has focused on adolescents and adults, a few studies have investigated these constructs in emerging adulthood. In one such study, among Mexican American college students, the relationship between acculturation and alcohol use was moderated by gender such that increased acculturation was associated with increased heavy drinking only for women (Rafaelli et al., 2007). Likewise, Safer and Piane (2007) found that more acculturation among Latina, but not Latino, college students was linked with greater alcohol use. However, in another sample of Mexican American college students, no relation between acculturation and heavy alcohol use was found for either men or women (Zamboanga, Rafaelli, & Horton, 2006). A recent study that explored the relationship between acculturation and health risk behaviors among college students from immigrant families found no significant relationship between acculturation and hazardous alcohol use for the Latino participants (Schwartz et al., 2011). Finally, Venegas and colleagues (2012) looked at the relationship of bi-acculturation, traditional gender role adherence, and the cultural value of familismo and found no significant relationship between these constructs and binge drinking among a sample of 160 English-speaking Latino college students. Taken together, these studies indicate that the relationships between acculturation and alcohol use in college students may operate differently depending upon factors such as gender. However, less is known regarding indicators of acculturation and alcohol use in emerging adults who may or may not be attending college and emerging adults from different Latino subgroups. It is possible that among Latino college students, the impact of language usage on alcohol use is attenuated by primary use of English on campus as well as the heavy prevalence of drinking among college students.

Finally, studies on alcohol use behaviors among Latinos have frequently included gender as an important predictor of alcohol use. There is evidence in the adolescent (e.g., Epstein, Botvin, & Diaz, 2000) and emerging adult alcohol literature (e.g., Corbin, Vaughan, & Fromme, 2008; Paschall, Bersamin, & Flewelling, 2005) that Latinas drink less frequently than their Latino counterparts. In the adolescent literature, there is evidence that these differences may vary by Latino subgroup. For example, Swaim and colleagues (2004) found that younger Mexican American females had more prevalent lifetime and 30-day alcohol use than their male counterparts. Another study noted no sex differences between male and female Puerto Rican adolescents while males from the Dominican Republic had more prevalent lifetime and monthly alcohol use as well as more alcohol consumed than Dominican females (Epstein, Botvin, & Diaz 2001a). Results from these studies indicate that gender is another important factor to consider in research on alcohol use among Latino populations.

The aim of this exploratory study is to investigate Latino subgroup as a moderator of the relationship between language usage and alcohol use variables in a national sample of Latino emerging adults. Gender differences by Latino subgroups will also be tested. The results of this study will be used to generate hypotheses for future research regarding the nature of any differences.

Methods

Add Health Study

This study consists of secondary data analysis of data from the National Longitudinal Study of Adolescent Health ((Add Health) Harris et al., 2009). Add Health is a nationally representative, longitudinal study of health and health-related behaviors among a sample of adolescents in the United States. The first wave of data collection began in the 1994-1995 school year, when 20,745 adolescents in grades 7-12 were recruited for participation (Wave I). Approximately six years later, a follow-up survey (Wave III) was conducted with these

same individuals at age 18-26 (N=15,170). The present study uses data from Wave III of the Add Health survey, which consisted of computer-assisted, in-home interviews. Institutional Review Board approval was received for this study.

Participants

Participants were emerging adults, between the ages of 18 and 27 who identified as Hispanic or Latino (n= 2,477). Females comprised 47.9% of this sample. In terms of Latino subgroup, 61.4 % (55.1% unweighted) were Mexican, 6.6% (14.8% unweighted) were Cuban, 13.4% (15.9% unweighted) were Puerto Rican, and 24% (20.1% unweighted) were Central/South American and other Latino. Detailed sample demographic characteristics by Latino subgroup and gender are displayed in Table 1. Participants signed an informed consent form before participating in Wave III.

Measures

Demographic Variables—Demographic variables include gender and educational background. Gender was coded so that females were zero. Participants were categorized as those who had not completed a high school diploma or equivalent, those with a high school diploma or GED, and those who had some college or more. Two dummy codes (# of groups - 1) were created for those who have *not* completed a high school diploma and another for any college. High school or equivalent was the reference group. . Hispanic or Latino background was categorized into 4 groups (1 = Mexican/ Mexican American, Chicano/ Chicana; 2 = Cuban/ Cuban American; 3 = Puerto Rican and 4 = Central/South American and other Latino). Next, three dummy codes were created for Cuban, Puerto Rican and Central/South American and other Latino. Mexican heritage participants were the reference group.

Language Usage—Language usage was measured by two separate items. One item asked what language the participants used most with family and close relatives, another item asked what language the participants used most with close friends. Responses were coded “Spanish”, “English”, or “half English and half another language”. For analysis purposes, two dummy codes were created for each language variable. English was the reference group.

Alcohol Use Variables—Two variables were used to measure past year or recent alcohol use. Participants were asked whether they had consumed any alcohol since the previous wave of the study. Those participants who indicated they had not were coded as 0 = none. Those who indicated they had consumed alcohol since the previous wave of the study were asked about the frequency of their alcohol consumption in the past 12 months. The frequency item asked, “During the past 12 months, on how many days did you drink alcohol?” There were 7 response categories: 0= “none”, 1= “1 or 2 days in the past 12 months” 2= “once a month or less (3 to 12 times in the past 12 months)”, 3= “2 or 3 days a month”, 4= “1 or 2 days a week”, 5= “3 to 5 days a week” and 6= “every day or almost every day”. This variable was recoded into a dichotomous outcome where 1 = any drinking and 0 = none. Past two-week binge drinking was measured with two items, one for male participants and one for females. For males, the item was “during the past two weeks, how many times did you have five or more drinks on a single occasion, for example, in the same evening?”, with responses ranging from 0-14 days. An identical question was asked of females, except the question asked frequency of consuming “four or more” drinks in a single occasion.

Data Management and Analytic Plan

Data analysis for this study included descriptive and multiple regression analyses for two alcohol use outcomes. The complex samples module for SPSS was used in data analysis to take into account the sampling weights used in the national survey (SPSS, 2011). The initial sample of 2,477 was used for the past-year drinking outcome. For the binge drinking outcome, only those youth who reported any drinking in the past year were included, yielding an initial sample of 1,673. Data were analyzed for participants with complete data on all variables of interest. Missing data represented less than 1% of cases. Past two-week binge drinking outcomes were assessed for normality. Past two-week binge drinking had a skewness value of 2.88. Binary logistic regression was used for the past-year drinking outcome. In the complex sampling module of SPSS, regression analysis for the binge drinking outcome was conducted within the general linear model (SPSS, 2011). The general linear module function allows for specification of which variables are categorical and which are continuous. Degrees of freedom are based upon the sampling design and represent “the difference between the number of primary sampling units and the number of strata in the first stage of sampling” (SPSS, 2011, pp. 48-49). Interaction terms for each Latino subgroup by gender (e.g. Cuban X Gender) and for each Latino subgroup by language usage (e.g., Cuban X Spanish language usage with family) were included in each model.

Results

Two regression analyses were conducted using the Complex Sampling Module of SPSS to test predictors of two alcohol use outcomes. Independent variables for both models included education variables, gender, Latino subgroup, language usage with family, language usage with peers as well as interaction terms for Latino subgroup by gender and language usage variables. This first regression was a logistic regression to test predictors of any alcohol use in the past year. In the second model, linear regression was used to test predictors of frequency of binge drinking in the past two weeks. For all models, main effects were not interpreted for variables with significant interaction effects.

Logistic regression was used to test predictors of drinking in the past year. Results for this model were statistically significant, Wald F (25, 85), 80.59, $p < .001$ and accounted for between 8.1% (Cox and Snell) and 11.3% (Nagelkerke) of the variance in past-year alcohol use (see Table 2 for full logistic regression results). Participants without a high school education had lower odds of past year alcohol use than those with a high school diploma or GED, (OR = .67, 95% CI [.48, .95]). Participants who had attended any college had greater odds of past year alcohol use (OR = 2.13, 95% CI [1.54, 2.94]). There was a significant interaction for Cuban by Spanish language use with family (OR = .12, 95% CI [.02, .67]). In this case, Cuban emerging adults had lower odds of alcohol use when speaking Spanish versus English with family compared to Mexican emerging adults odds of alcohol use when speaking Spanish versus English with family. Likewise there was a significant interaction for Cuban by half English, half Spanish language use with family (OR = .20, 95% CI [.07, .56]). That is, the odds for past-year alcohol use were lower for Cubans when speaking half English and half Spanish with family than when speaking English compared to Mexican emerging adults' odds of alcohol use when speaking half English and half Spanish versus English with family.

Linear regression was conducted in the complex sampling module in SPSS using the General Linear Model function to predict frequency of binge drinking in the past two weeks (see Table 3). Regression results were statistically significant, Wald F (25, 77), 165.64, $p < .001$ and explained 10.4% of the variance in binge drinking. Main effects were not significant for education. Significant interactions emerged for gender by Central/South American subgroup, $b = -1.061$, $p < .01$ such that Central American men reported fewer

binge drinking days than Mexican men. Next, there was a significant interaction for Puerto Rican by Spanish Language Usage, $b = -1.71$. Puerto Rican emerging adults who spoke Spanish with their friends reported fewer binge drinking days than those who spoke English with their friends compared to Mexican emerging adults reported binge drinking days when speaking Spanish versus English with their friends.

Discussion

The purpose of this study was to test Latino subgroups as a moderator of the relationships among language usage with family and peers, gender, and alcohol use in a sample of Latino emerging adults. Research has consistently shown that acculturation, including linguistic acculturation, increases the likelihood of alcohol use among Latinos groups of differing age ranges (Gil, Wagner, & Vega, 2000; Ma & Shive, 2000; Nielsen, 2000; Wahl & Eitle, 2010). However, there is a paucity of research concerning differences in past-year drinking and binge drinking among emerging adult Latino subgroups. Research investigating differences in alcohol use among Latino subgroups has been conducted with adolescents (Wahl & Eitle, 2010) and adults (Nielsen, 2000), but has not examined emerging adult populations. Studies examining alcohol use and acculturation among Latino emerging adults have been limited to college samples (Rafaelli et al., 2007; Zamboanga, Rafaelli, & Horton, 2006). This study contributes to the research by investigating how language usage is associated with alcohol use among Latino emerging adult subgroups in a national sample.

Important demographic variables were also tested in relation to alcohol use outcomes. Education was associated with past-year drinking. When compared to those with high school diplomas, those with less than a high school education were at lower odds for drinking while those with some college or beyond were at greater odds of past-year drinking. No gender differences emerged for past year drinking. For binge drinking, there was a significant gender by subgroup interaction for Central/South Americans compared to Mexicans. Gender differences indicate that Central/South American emerging adult females reported fewer binge drinking days than their male counterparts. These results show that gender differences in binge drinking rates may depend upon Latino subgroup. Prior work in this area has found gender differences among Mexican American college students (Zamboanga, Rafaelli, & Horton, 2006). Among adults, Nielsen (2000) found gender differences in heavy drinking for Mexicans, Puerto Ricans, and Other Hispanics, but not for Cubans.

Cultural adaptation involves processes of engagement and adoption of host culture attributes as well as engagement and retention of heritage culture attributes (Gonzales, Fabrett, & Knight, 2009; Schwartz et al., 2010). Schwartz and colleagues (2010) offer a broad conceptualization of acculturation to include behavioral, values-based, and identity-based indicators of acculturation for both the heritage culture and the host culture. The current study aimed to identify the role of language usage with family and peers in alcohol use, a behavioral indicator of acculturation, among Latino subgroups. Spanish language usage may reflect engagement in one's heritage culture or disengagement from the host culture. Further, the investigation of peer and family dimensions of language use as separate constructs is important for emerging adults. Emerging adulthood often represents a time of greater independence and greater engagement with peer groups.

Existing research has also utilized linguistic acculturation scales and found that Latino adolescents that are less acculturated are more likely to refrain from alcohol use (Epstein, Botvin, & Diaz, 2001b). These authors found that speaking Spanish with family was protective for Mexican, and South and Central American subgroups. Results from the current study found that speaking Spanish with family was associated with lower odds of past-year drinking for Cuban emerging adults compared with those who speak English with

their family. Similar results emerged for speaking half Spanish and half English with family compared with speaking just English with family. Speaking Spanish may indicate that greater enculturation and preservation of participants' heritage culture may be a factor influencing the decision to drink alcohol for Cuban emerging adults. Schwartz and colleagues (2010) note that acculturation strategies may vary by migrant type, such as voluntary immigrants, refugees, and asylum seekers. For example, as the first and second waves of Cuban immigration resulted in affluent immigrants seeking asylum, this may have affected the acculturation strategies adopted for this group. The use of both English and Spanish may suggest an integration of heritage culture and receiving culture among Cubans. At the same time, participants' Spanish language usage may also be reflective of their families' cultural adaptation. Census data note that Cubans have the lowest rates of speaking only English in the home at 13.7% while approximately 40% report non-English at home, but speaking English "very well" (Ramirez, 2004). Emerging adults may be speaking Spanish with parents out of necessity. Though it is difficult to draw conclusions regarding the intentions around language usage, it may represent engagement with both family and their heritage culture.

Language usage with peers was linked to binge drinking for Puerto Rican emerging adults. More specifically, speaking Spanish was related to fewer days of binge drinking in the past two weeks compared with speaking English with friends. Puerto Ricans, as a whole, report high rates of either speaking English only in the home, or being able to speak English "very well" even when Spanish is used in the home. For these emerging adults, Spanish language usage with peers may represent a deeper enculturation process that is protective against alcohol use. Future research in this area might explore how the enculturation process might differ for Latino emerging adults. Sociopolitical contexts may interact with the identity exploration of emerging adulthood.

Furthermore, differences in historical and migratory contexts are important to understanding subgroup differences (Gonzales et al., 2009; Santiago-Rivera et al., 2002). Cubans and Puerto Ricans, due to historical and migratory contexts in which they had greater aid from the U.S. as well as time to acculturate, may have greater support in integrating host and heritage cultures. The context in which Puerto Ricans and Cubans migrated to the U.S. differs substantially from other subgroups with respect to their access to aid and financial resources. Because Puerto Rico is a U.S. territory, they are U.S. citizens, and thus eligible for public programs and education. Similarly, the first two waves of Cuban immigration tended to be made up of highly affluent and educated immigrants seeking asylum. As U.S. provided aid to these immigrants, these resources may have supported the integration of the heritage and receiving cultures. The behavioral acculturation dimension of language usage with peers and family as an indicator of acculturation may predict alcohol practices common to the United States such as binge drinking. Thus, our results may be interpreted to suggest that due to prolonged contact with U.S. culture which normalizes drinking, Puerto Rican and Cubans who only speak English with family and peers may have more alcohol involvement.

It is also important to situate the current findings within Arnett's theory of emerging adulthood. Cultural differences in the transition from adolescence to adulthood may contribute to risk for alcohol use. For many, emerging adulthood coincides with going to college or transitioning into the military or employment (Arnett, 2005b). The context of this transition might be an important factor in determining risk for excessive alcohol use. For example, there is some evidence that for Latino emerging adults, college attendance is not associated with increased risk for heavy alcohol use (Paschall, Bersamin, & Flewelling, 2005). It is possible that Latino emerging adults may be more likely remain in their parents' homes longer and thus, be at reduced risk for excessive alcohol use. Further, there may be multiple indicators of this protective effect including processes of acculturation. Remaining

with one's family may reflect values based acculturation (e.g., familism) as well as engagement in other behavioral indicators of acculturation (e.g., language usage). In the case of the current study, Spanish language usage with family may reflect family members' acculturation, the emerging adult's acculturation, or connection to family. Given that emerging adulthood is a time of transition and identity exploration, the language emerging adults use with their families may represent multiple aspects of development. Future research in this area should include Schwartz et al.'s (2010) important behavioral, values-based, and identity-based indicators of acculturation, the context of these indicators, as well as the developmental considerations that might contribute to excessive alcohol use.

Results from the current study yield some important hypotheses and avenues for future studies of alcohol use among Latino emerging adults. The study yielded important differences for Cuban and Puerto Rican emerging adults. Specifically, these groups may have more status in the U.S. whereby enculturation processes are supported and levels of acculturative stress are lower. The protective effects of Spanish language usage may be more prominent in these groups. It is also important to note that in this sample, there were few statistically significant effects. While the number of interactions may have yielded underpowered models, it is possible that language usage with family and peers is not linked to alcohol use behaviors in emerging adulthood. Emerging adulthood is a high risk developmental period for alcohol use (Arnett, 2005a) and it is possible that other risk factors may be more robust predictors of alcohol use among Latino emerging adults. Other studies of alcohol use among Latino emerging adults have found non-significant relationships between cultural variables and alcohol use (Schwartz et al., 2011; Venegas et al., 2010; Zamboanga, Rafaelli, & Horton, 2006).

The current study adds to existing literature by investigating differences in language usage and alcohol use among Latino emerging adults. Prior research on alcohol use among Latino emerging adults has often been limited to one Latino subgroup, has included all subgroups into one broad category, or has focused solely on Latino college students. The Add Health data is rich in that it contains Latino subgroup information in addition to questions regarding language usage with family and peers. Emerging adulthood is associated with increased risk for heavy drinking and its consequences. For Latinos, cultural context is an important source of risk and/or protection from the effects of drinking and warrants further study.

Limitations of the present study should be noted. As the gathered data were self-report, some participants may have responded to the questionnaire in a socially desirable manner. Additionally, the sample may not be representative of all Latino emerging adults with regard to educational achievement. Because the initial sampling design for Add Health was school based, it is possible that youth who may have been at greater risk for alcohol consumption were not in school during the initial waves of Add Health and were thereby excluded from the current sample. Still, there is some variation in the current sample with regard to education. Although the average number of years of education was nearly 13, approximately half of the sample had 12 or fewer years of education.

Second, the interpretation of study results is limited by the analysis of cross-sectional data and the use of single item measures. This study examined level of acculturation operationalized by language use among emerging adults at a single point in time. Longitudinal studies that measure acculturation as an adaptive process that evolves over time may be more appropriate. Additionally, limitations in power existed for the present study. Although the Add Health data has four Latino subgroups, some subgroup analyses may have been underpowered, thus, yielding non-significant estimates with wide confidence intervals. Lastly, single item measures of language usage with family and peers were used and may have limited reliability.

Finally, the current study uses two language usage variables as behavioral indicators of acculturation. More comprehensive measures of acculturation that include multidimensional assessments that tap into values and identities related to both heritage and receiving cultural practices are not included in this dataset (Schwartz et al., 2010). One of the difficulties the field is currently facing is a lack of standardization in how the construct of acculturation is operationalized (Rivera, 2010). Giving attention to the context in which acculturation takes place, and parsing out mediating factors such as perceived discrimination, is necessary in order to better understand the complexity of acculturation (Rivera, 2010; Schwartz et al., 2010). For example, depending on location, Latino subgroups may be more or less represented in the population. Ethnic enclaves may make it easier to be involved in and maintain heritage culture behaviors, values, and identities. Although this study utilizes language use as an indicator of cultural adaptation, our ability to make conclusions regarding other indicators of acculturation is limited. Language use represents only one indicator of behavioral acculturation and interpretation of its meaning is limited in many ways. Future studies in this area should continue to investigate the relationship between acculturation and alcohol use by assessing other dimensions of acculturation such as involvement in other heritage culture practices, cultural values, and self-report assessments of identity. Additionally, more research is needed to assess how Latino subgroups differ in the degree of disparity between heritage culture and receiving culture, thus influencing levels of acculturative stress and alcohol use (Schwartz et al., 2010).

Because Latinos represent 16.3% of the population in the United States (Ennis, Rios-Vargas, & Albert, 2011), alcohol prevention initiatives are essential to ameliorating the long-term consequences of alcohol use for this group. Indeed, in their review, Chartier and Caetano (2010) note that Latinos show higher rates of high-risk drinking and ongoing alcohol dependence than other groups. Furthermore, the authors note differences in alcohol use disorders among Latino subgroups. Thus, understanding differences between Latino subgroups is a vital component of prevention and intervention development. This study may inform the development of prevention for Latino emerging adults. The results suggest that there are important differences in risk and protective factors for Latino subgroups, and within those subgroups, by gender. Providers of alcohol-abuse interventions may better meet the needs of their clientele by considering the cultural and acculturation factors for the population they serve. For example, providers might discuss aspects of cultural adaptation and experiences of acculturative stress, and how these may impact an individual's alcohol use. By recognizing within-group differences and tailoring interventions to address culturally-specific needs, the interventions may be more successful in reducing the harmful effects of alcohol use.

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Descriptives by Latino Subgroup and Gender

Table 1

Variable	Estimate (S.E.)/Percentage	<i>a</i>		Central/South American and Other (n=498)		Men (n=1226)	Women (n=1251)	<i>b</i>
		Mexican (n=1366)	Cuban (n=367)	Puerto Rican (n=393)				Total (n=2,477)
Age		21.99 (.30)	21.90 (.84)	21.82 (.32)	21.92 (.31)	22.06 (.25)	21.83 (.24)	21.95 (.24)
Education								
Less than high school		24.8%	15.1%	19.4%	19.4%	24.9%	20.5%	22.8%
High school		39.1%	27.9%	34.6%	30.3%	36.6%	36.4%	36.5%
College or more		36.1%	56.9%	46.0%	50.3%	38.5%	43.1%	40.7%
Gender								
Male		52.9%	45.9%	53.2%	52.1%	-	-	52.1%
Female		47.1%	54.1%	46.8%	47.9%			47.9%
Language Usage with Family								
Spanish		33.8%	60.3%	12.5%	40.5%	34.2%	35.8%	34.9%
Half and Half		11.7%	8.1%	34.6%	7.8%	9.5%	10.8%	10.1%
English		54.4%	31.0%	46.0%	51.7%	56.3%	53.4%	54.9%
Language Usage with Peers								
Spanish		12.7%	5.0%	4.5%	8.8%	10.4%	10.8%	10.6%
Half and Half		9.6%	6.1%	2.0%	6.7%	8.3%	7.4%	7.8%
English		77.7%	89.0%	93.6%	84.5%	81.3%	81.8%	81.6%
Alcohol Use in Past Year								
No		32.4%	28.5%	24.1%	32.5%	29.3%	34.9%	32.0%
Yes		67.6%	71.5%	75.9%	67.5%	70.7%	65.1%	68.0%
# Days of Binge Drinking in past 2 weeks	<i>c</i>	1.41 (.12)	1.23 (.34)	1.40 (.21)	1.06 (.14)	1.73 (.14)	.80 (.11)	1.31 (.10)

a n sizes reported are unweighted

b subgroup data are missing for 8 participants, thus the total n size is larger than the sum for each subgroup

c unweighted n = 1,667

Table 2**Logistic Regression Results: Past Year Alcohol Use**

Variable	AOR 95% CI
Education	
Less than high school	.67 [.48, .95] *
Some college or more	2.13 [1.54, 2.94] ***
Gender	
Male	1.25 [.89, 1.76]
Latino subgroup	
Cuban	4.61 [1.42, 14.98]
Puerto Rican	1.22 [.63, 2.37]
Central/South American	.81 [.45, 1.48]
Language with family	
Spanish	1.05 [.63, 1.75] **
Half and half	.77 [.39, 1.53]
Language with peers	
Spanish	.51 [.32, .84]
Half and half	.57 [.31, 1.05]
Gender X Cuban	1.16 [.50, 2.69]
Gender X Puerto Rican	1.30 [.66, 2.56]
Gender X Central/South American	1.22 [.59, 2.51]
Cuban X Family Spanish	.12 [.02, .67] *
Cuban X Family half and half	.20 [.07, .56] **
Puerto Rican X Family Spanish	.54 [.25, 1.16]
Puerto Rican X Family half and half	.83 [.16, 4.23]
Central/South American X Family Spanish	.74 [.32, 1.72]
Central/South American X Family half and half	1.39 [.48, 3.98]
Cuban X Peer Spanish	.66 [.27, 1.60]
Cuban X Peer half and half	1.48 [.59, 3.74]
Puerto Rican X Peer Spanish	1.92 [.28, 12.95]
Puerto Rican X Peer half and half	.58 [.06, 5.58]
Central/South American X Peer Spanish	.92 [.34, 2.54]
Central/South American X Peer half and half	1.86 [.57, 6.02]

a. reference group = high school diploma or equivalent; b. reference group = females; c. reference group = Mexican; d. reference group = English

*
p < .05

**
p < .01

p < .001

Table 3**Multiple Regression Results: Binge Drinking**

Variable	Binge Drinking	
	b	95% CI
Education		
Less than high school	.34	[−.28, .95]
Some college or more	−.19	[−.50, .12]
Gender		
Male	1.14	[.76, 1.51]
Latino subgroup		
Cuban	1.32	[−1.67, 4.32]
Puerto Rican	−.33**	[−.68, .02]
Central/South American	.36	[−.36, 1.08]
Language with family		
Spanish	−.57	[−1.01, −.13]
Half and half	−.41	[−1.17, .34]
Language with peers		
Spanish	−.02	[−.65, .61]
Half and half	.99	[−.31, 2.29]
Gender X Cuban	−1.03	[−2.47, .40]
Gender X Puerto Rican	.73	[−.06, 1.53]
Gender X Central/South American	−1.06**	[−1.73, −.39]
Cuban X Family Spanish	−.93	[−3.40, 1.55]
Cuban X Family half and half	−1.74	[−4.41, .94]
Puerto Rican X Family Spanish	−.44	[−1.29, .41]
Puerto Rican X Family half and half	−.38	[−1.58, .82]
Central/South American X Family	−.03	[−.64, .57]
Spanish		
Central/South American X Family half and half	−.03	[−.96, .90]
Cuban X Peer Spanish	.79	[−1.30, 2.87]
Cuban X Peer half and half	−1.66	[−3.64, .33]
Puerto Rican X Peer Spanish	−1.71*	[−3.10, −.32]
Puerto Rican X Peer half and half	−.89	[−1.90, −.175]
Central/South American X Peer Spanish		
Central/South American X Peer half and half		
R ²	.104	
Wald F	165.64***	

a. reference group = high school diploma or equivalent; b. reference group = females; c. reference group = Mexican; d. reference group = English

*
p < .05

**
p < .01

 $p < .001$